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DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 571

[Docket No. NHTSA-2015-0099]

Federal Motor Vehicle Safety Standard; Automatic Emergency Braking

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

ACTION: Grant of petition for rulemaking.

SUMMARY: This document grants the petition for rulemaking submitted by the Truck Safety Coalition, the Center for Auto Safety, Advocates for Highway and Auto Safety, and Road Safe America on February 19, 2015, to establish a safety standard to require automatic forward collision avoidance and mitigation systems on certain heavy vehicles. For several years, NHTSA has researched forward collision avoidance and mitigation technology on heavy vehicles, including forward collision warning and automatic emergency braking systems. The agency will continue to conduct research and to evaluate real-world performance of these systems through track testing and field operational testing. NHTSA will determine whether to issue a rule in the course of the rulemaking proceeding, in accordance with statutory criteria.

DATES: [insert date of publication in the Federal Register].

FOR FURTHER INFORMATION CONTACT: For technical issues, you may call Dr. Abigail Morgan in the Office of Crash Avoidance Standards at (202) 366-1810. For legal issues, you may call Mr. David Jasinski or Ms. Analiese Marchesseault in the Office of Chief

Counsel at (202) 366-2992. You may send mail to these officials at: National Highway Traffic Safety Administration, 1200 New Jersey Avenue, S.E., Washington, DC 20590.

SUPPLEMENTARY INFORMATION: On February 19, 2015, the Truck Safety Coalition, the Center for Auto Safety, Advocates for Highway and Auto Safety, and Road Safe America (hereon referred to collectively as the “petitioners”) submitted a petition to NHTSA. Their petition requested that the agency initiate rulemaking to establish a new Federal motor vehicle safety standard to require vehicle manufacturers to install forward collision avoidance and mitigation (FCAM) systems on all vehicles with a gross vehicle weight rating (GVWR) of 10,000 pounds or more. The petitioners claimed that FCAM systems have the potential to provide significant safety, economic, and societal benefits.

On May 4, 2015, the Commercial Vehicle Safety Alliance (CVSA) submitted a letter supporting the petition for rulemaking. However, CVSA recommended that the mandate for FCAM systems apply to vehicles with a GVWR of 10,001 pounds or more (rather than 10,000 pounds or more) to better conform to existing commercial motor vehicle safety classes.

There are a number of terms being used by industry and regulators for FCAM technology, including forward collision warning (FCW), crash imminent braking (CIB), dynamic brake support (DBS), automatic emergency braking (AEB), and collision mitigation braking (CMB). Consistent with the terminology used in the petitioners’ request, in this notice, the FCAM technologies of focus are the systems that combine FCW alert signals with CMB automatic braking capability.

FCAM systems use forward-looking sensors, typically radars and/or cameras, to detect vehicles in the roadway. When a rear-end crash is imminent, the FCW system warns the driver

of the threat. If the driver takes no action, such as braking or steering, or if the driver does brake but not enough to avoid the crash, a CMB or AEB system may automatically apply or supplement the brakes to avoid or mitigate the rear-end crash.

In their petition for rulemaking, the petitioners cited estimated safety benefits from a 2012 research study¹ conducted by the University of Michigan Transportation Research Institute (UMTRI), which evaluated the performance and effectiveness of these current and future generation systems. They also identified the systems that are commercially available. The petitioners believe that mandating technology through regulation is the fastest way to ensure the potential safety benefits. Additionally, they believe that additional safety benefits may be achieved from future FCAM systems that may have higher levels of performance than the current systems and that may be able to respond to additional crash scenarios other than rear-end crashes, such as vehicle-to-pedestrian crashes. Furthermore, the petitioners believe that a mandate would cause the system costs to decrease due to high production volumes.

For several years, NHTSA has been conducting research on heavy vehicle FCAM technologies. This research includes test track evaluations of first generation systems, evaluation of driver-warning interface effectiveness, and an ongoing field operational test of production systems. Based on this research, the agency agrees with the petitioners that FCAM systems have the potential to save lives by preventing or reducing the severity of rear-end crashes.

The industry has indicated that next generation automatic emergency braking systems for truck tractors will be commercially available later this year and will have improved performance that enables the vehicle to warn the driver and automatically brake in response to stationary lead vehicles. In addition to the increased performance from the next generation systems, industry is

¹ Woodrooffe, J., et al., Performance Characterization and Safety Effectiveness Estimates of Forward Collision Avoidance and Mitigation Systems for Medium/Heavy Commercial Vehicles, Report No. UMTRI-2011-36, UMTRI (August 2012). Docket No. NHTSA-2013-0067-0001.

also expected to begin production of automatic emergency braking systems on air-braked single unit trucks with a GVWR of more than 26,000 pounds in the near future.

The agency's test experience has been limited to first generation production systems on truck tractors and a prototype system on a motorcoach, and the agency is aware of a few vehicles with a GVWR greater than 10,000 pounds and less than or equal to 26,000 pounds sold in the U.S. currently equipped with AEB systems. The agency plans to test the next generation systems as they become available, including AEB systems that are installed on vehicles with a GVWR greater than 10,000 pounds and less than or equal to 26,000 pounds. If available, NHTSA would consider this additional information in the rulemaking.

The European Union (EU) Commission Regulation No. 347/2012 requires an advanced emergency braking system (AEBS) with forward collision warning on most new heavy vehicles, with some exceptions.² The test scenarios, vehicle speeds, and performance criteria in EU Commission Regulation No. 347/2012 differ from the test criteria that NHTSA developed for its light vehicle automatic emergency braking evaluation that the agency plans to add to its New Car Assessment Program (NCAP), which has been the basis for the test criteria used to evaluate heavy vehicles. The agency will consider the test criteria required by the European regulation, as it continues to develop its heavy vehicle test procedures and performance metrics.

Considering the information before the agency, including the information referenced in the petition, NHTSA grants the February 19, 2015 petition in accordance with 49 CFR Part 552 and initiates a rulemaking proceeding with respect to forward collision avoidance and mitigation systems on vehicles with a GVWR greater than 10,000 pounds. The granting of the petition

² Commission Regulation (EU) No 347/2012; of 16 April 2012 implementing Regulation (EC) No 661/2009 of the European Parliament and of the Council with respect to type-approval requirements for certain categories of motor vehicles with regard to advanced emergency braking systems. Available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:109:0001:0017:EN:PDF>.

from Truck Safety Coalition, the Center for Auto Safety, Advocates for Highway and Auto Safety, and Road Safe America does not mean that the agency will issue a final rule. The determination of whether to issue a rule is made after study of the requested action and the various alternatives in the course of the rulemaking proceeding, in accordance with statutory criteria.

Authority: 49 U.S.C. 322, 30111, 30115, 30117, 30162, 30166, and 49 CFR 552; delegation of authority at 49 CFR 1.95.

Raymond R. Posten

Associate Administrator for
Rulemaking

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